Maricopa County
Department of Transportation

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July 6, 2016

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Re: **ET Docket No. 13-49**, Comments of Maricopa County to Refresh the Record on Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band

Dear Ms. Dortch:

Maricopa County appreciates the opportunity to respond to the Federal Communications Commission's (FCC) Public Notice dated June 1, 2016, (FCC 16-68) (the "PN") to update and refresh the record on the use of U-NII devices in and near the 5.9 GHz band designated for Dedicated Short Range Communications (DSRC). Maricopa County urges the Commission to preserve the 5.9 GHz band and its channelization as designed for DSRC safety of life benefits and mobility applications that have been in development of over a decade. Any sharing protocol must work around currently deployed and planned deployments of DSRC applications and thorough testing must be done to determine that the protocol is safe before any sharing implementation.

We would emphasize that any proposal that calls for rechannelization of the 5.9 GHz band will set back the future of traffic safety several years and cost hundreds of millions of dollars in wasted research, development and investment.

The Arizona Connected Vehicle initiative is a partnership between the Maricopa County Department of Transportation (MCDOT), Arizona Department of Transportation (ADOT), and the University of Arizona. The initiative has developed and deployed connected vehicle applications that integrate vehicles with Systematically Managed ARTerial (SMART) roadway systems in Maricopa County.

Through the MCDOT SMART*Drive* Program, MCDOT has invested in planning, designing and implementing a connected vehicle test bed in Anthem, Arizona which is a community of approximately 25,000 residents. The test bed includes 5.5 miles of roadway and 11 intersections equipped with roadside DSRC technology. The County has also equipped several of its incident response vehicles with on-board DSRC radios to demonstrate the Vehicle-to-Infrastructure (V2I) applications.

The test bed has served as the development site for the United States Department of Transportation (USDOT) Multimodal Intelligent Traffic Signal System (MMITSS) suite of applications that improves safety for incident responders and pedestrians; enhances mobility for transit; and reduces delay for freight. In Arizona, there is a vehicle collision every five minutes. Every three days, one of those collisions involves a fire department vehicle or ambulance. Fire trucks are involved in ten times as many collisions as other heavy trucks are, and sadly 13% of firefighters and police officers killed in the line of duty are killed in vehicle-related incidents.

MCDOT and its partners have been at the forefront of exploring, testing and implementing vehicle communication technology that will provide emergency vehicles prioritization to help prevent emergency responders from colliding with one another at signalized intersections when responding to emergencies. Our system works by simultaneously communicating with multiple emergency vehicles arriving at the same intersection at the same time and lets them know who has the right-of-way. The applications have been successfully tested and demonstrated to various states, national and international stakeholders on numerous occasions.

MCDOT started developing the test bed and applications in 2007 and has made an investment of over a million dollars in the initiative. The test bed is a 'live' test bed and is operational 24/7. In addition, USDOT and the Connected Vehicle Pooled Fund have invested over $2 million in the MMITSS applications. These investments do not include staff time and years spent in researching and enhancing the technology to the level of maturity it has achieved today. MCDOT's goal is to apply the technology on a larger scale in the County so that its constituents accrue safety and mobility benefits.

DSRC is the key communications technology that has been implemented at the Anthem test bed. DSRC is an essential and unique technology for safety of life V2I, Vehicle-to-Vehicle (V2V), and Vehicle-to-Pedestrian (V2P) communications. We have deliberately selected to invest in this technology since the FCC allocated the spectrum assigned for transportation applications.

The transportation industry has spent hundreds of millions of dollars on research and development in reliance on the FCC's channel plan that has seven 10 MHz wide channels which accommodates the requirement for very low latency, stability, and reliability. Our applications use channels 172, 178, and 182 according to the current channel plan.

The FCC must protect 5.9 GHz and its current channel plan to capitalize on all the investment (both private and government), research, development, testing and progress. Rechannelization the 5.9 GHz band would nullify the $3 million investment already made in Maricopa County under the current channelization and delay DSRC's benefits by several years. It will delay full deployment within Maricopa County as time and resources will be spent on re-tooling and testing the system.

We appreciate the FCC's goal of finding and devoting more spectrum for Wi-Fi and unlicensed use, but the FCC's stated and statutory purpose is not for the commercial purposes of Wi-Fi. The Communications Act of 1934 specifically states the FCC is "for the purpose of promoting safety of life and property through the use of wire and radio communication."[1] The PN seems to put safety of life on an equal footing as the myriad uses to which Americans put Wi-Fi, nearly all of which do not affect safety of life. We respectfully ask the FCC to approach the record in this proceeding the way that we do: as a matter of public safety.

For the reasons stated in these comments to refresh the record, we strongly encourage the FCC to preserve and promote, as a matter of public safety and safety of life, the use of DSRC in the 5.9 GHz according to the current FCC channel plan. Altering the use of 5.9 GHz or its channel plan will destroy the crucial work that has been done to bring V2V, V2I and V2P into reality just as it is on the cusp of widespread deployment.

We support sharing technologies only if they can be proven safe and without any interference with the safety of life functions of DSRC across all channels in the 5.9 GHz band according to the current channel plan. The burden of proof should be on those non-DSRC entities who want to share the band. Sharing testing should in no way delay the deployment of DSRC and its transformative benefits.

Sincerely,

Jennifer Toth, P.E.
Director of Transportation/County Engineer

[1] *47 U.S.C. § 151*